

REMARKS

The present application was filed on January 30, 2001 with claims 1-20. In the outstanding Office Action dated April 20, 2005, the Examiner has again rejected claims 1-20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,507,856 to Chen et al. (hereinafter “Chen”).

In this response, claims 1, 2, 8, 9, 15 and 16 have been amended. Applicant traverses the §102(e) rejection for at least the reasons set forth below. Applicant respectfully requests reconsideration of the present application in view of the above amendments and the following remarks.

Applicant requests an acknowledgment of the receipt of formal drawings that were filed on April 11, 2001.

Claims 1-20 stand rejected under 35 U.S.C. §102(e) as being anticipated by Chen. With regard to independent claims 1, 8 and 15, which are of similar scope, the Examiner maintains the rejection set forth in the prior Office Action dated October 4, 2004, contending that Chen discloses each and every one of the elements set forth in these claims. Applicant, however, respectfully disagrees with the Examiner’s contention.

Specifically, Chen fails to disclose each and every one of the elements set forth in claims 1, 8 and 15, as is necessary in order to sustain an anticipation rejection of the subject claims. For example, Chen fails to disclose generating a document model for automatically constructing a semantically and syntactically valid document, as required by the claimed invention, without the use of standard editors (e.g., XML editors), as is conventionally done. The process automation system taught by Chen requires the use of a “constraint set” which “may be constructed by standard editors or tools” (Chen; column 4, lines 27-28, 38-39; emphasis added). Consequently, Chen fails to address an important problem to which the claimed invention is directed.

Chen also fails to disclose associating one or more model elements with a tag element in the document model, as the Examiner asserts (final Office Action; page 3, second paragraph). In response to Applicant’s arguments, the Examiner contends that:

Chen et al. clearly teach that the ‘PONumber Purpose Data [sic] Type LineItem\* Address\* TotalAmount’ elements of <!Element 0> are associated (i.e. included within) the tag element, capture part of the semantics of the tag element (i.e. detail the types of data elements utilized in the tag element), and represent possible alternatives to the information included in the tag (i.e. PONumber, Type, etc are all alternative data element types of the tag element wherein the term ‘alternative’ could

easily be interpreted as ‘other’ or ‘different’ instead of interpreted as choice based as implied by applicant. (Final Office Action; page 6, last paragraph).

Applicant respectfully disagrees with this contention. The items to which the Examiner analogizes with the model elements recited in the subject claims, namely, “PONumber Purpose Date Type LineItem\* Address\* TotalAmount,” as well as others such as “Party Name Street . . . ,” are clearly used to represent and capture data values, and thus Chen refers to these items as “data elements” (see, e.g., Chen; column 5, lines 2-14). The data elements in Chen are not analogous to model elements, as recited in claims 1, 8 and 15, since they cannot capture semantic information of a corresponding tag. As such, the data elements disclosed in Chen may be more appropriately analogized to the *Value Elements* of the present invention (see, e.g., Specification; page 7, lines 14-17).

Semantics describes the “meaning of a string in some language, as opposed to syntax which describes how symbols may be combined independent of their meaning” (Denis Howe, “The Free On-line Dictionary of Computing,” ©1993-2005; emphasis added). Semantic information defines additional constraints that, although it is not considered to be part of the grammar syntax, affects the formation of the document in some way (Specification; page 1, lines 15-16). For example, while a grammar may describe the data type, the form of the data (e.g., date/time format) can vary depending on the semantics of the document (e.g., U.S. time vs. U.K. time vs. military time, etc.) (Specification; page 2, lines 21-23). Chen fails to disclose a mechanism for automatically capturing semantic information in a document model, without the use of conventional XML editors, and thus the system taught by Chen is distinguishable from the claimed invention.

For at least the reasons set forth above, Applicant asserts that claims 1, 8 and 15 are patentable over the prior art of record. Notwithstanding the above traversal, however, claims 1, 8 and 15 have been amended in an effort to further clarify the claimed invention. Specifically, claims 1, 8 and 15, as amended, recite “forming a document model for automatically constructing a semantically and syntactically valid document” (emphasis added), meaning without the need for standard editors. Claims 1, 8 and 15, as amended, further require that each of the one or more model elements associated with each of the tag elements represent a different semantic component of the corresponding tag. Moreover, amended claims 1, 8 and 15, further require that each model element have “at most one tag element as a parent.” Chen fails to teach such a document generation

methodology. Applicant asserts that Chen fails to disclose model elements at all, as previously stated. Even assuming, *arguendo*, that the data element Address\* (6) disclosed in Chen is equivalent to the model element recited in the subject claims, as the Examiner suggests, Applicant asserts that the data element Address\* clearly has more than one parent, namely, data elements PurchaseOrder (0) and LineItem\* (5) (Chen; FIG. 3).

Applicant further submits that Chen fails to disclose “generating a semantically and syntactically valid sub-tree of elements as a child of the one or more model elements based at least in part upon a structure of the document to be constructed under one or more predetermined conditions,” as required by claims 1, 8 and 15. In response to Applicant’s prior arguments, the Examiner contends that “Chen et al teaches semantically and syntactically valid sub-tree (i.e., as defined by the DTD (Fig. 2) which was a set of rules to follow and thus a document processed by said DTD would comply with the constraints expressed in it) wherein the sub-tree was constructed under predetermined conditions established by the DTD” (final Office Action; page 7, first paragraph). Applicant respectfully disagrees with this contention.

The data type definition (DTD) disclosed in Chen merely describes the syntax of the document grammar (see, e.g., Specification; page 1, lines 8-12), but does not define semantic constraints. Thus, a document conforming to the syntax rules found in the DTD taught by Chen would be considered a syntactically valid document (Specification; page 1, lines 13-14), but necessarily a semantically valid document. As previously stated, Chen describes no mechanism for capturing semantic information, and therefore cannot guarantee that a semantically and syntactically valid sub-tree is formed, as required by the claimed invention.

Applicant also submits that Chen is not believed to be available as prior art for the purpose of sustaining an obviousness rejection against the claimed invention. Specifically, Chen, which was filed prior to but issued after the filing date of the present application, and the claimed invention were, at the time the invention was made, owned by the same entity or subject to an obligation of assignment to the same entity, namely, International Business Machines Corporation. In the present application, this assignment was recorded on January 30, 2001, at reel 011502, frame 0486.

As set forth in 35 U.S.C. §103(c), “[s]ubject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed

invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.”

For at least the above reasons, Applicant asserts that claims 1, 8 and 15 are patentable over the prior art of record. Accordingly, favorable reconsideration and allowance of these claims are respectfully solicited.

With regard to claims 2-7, which depend from claim 1, claims 9-14, which depend from claim 8, and claims 16-20, which depend from claim 15, Applicant submits that these claims are also patentable over the prior art of record by virtue of their dependency from their respective base claims, which are believed to be patentable for at least the reasons given above. Furthermore, one or more of these claims define additional patentable subject matter in their own right.

For example, claims 2, 9 and 16 further define the step of generating a semantically and syntactically valid sub-tree of elements as including the steps of assigning a tag element corresponding to a tag in the document when the tag associated therewith includes a single sub-tag, the tag element being a child of the model element corresponding to the sub-tree, associating one or more model elements with the tag element, each of the model elements being a child of the tag element and representing an alternative to the information relating to the corresponding tag, and repeating the steps of assigning a tag element and associating one or more model elements to the tag element until all sub-tags of the tag have been mapped to the document model. Chen fails to disclose such a feature.

In response to Applicant’s arguments relating to claims 2, 9 and 16, the Examiner contends that “Chen et al. teach model elements (Fig. 2: (‘PONumber Purpose Data [sic] Type LineItem\* Address\* TotalAmount)>) associated with a tag element” (final Office Action; page 7, last paragraph). Applicant respectfully disagrees with this contention. The Examiner also incorrectly characterizes the definition of a Model Element as set forth in the present specification. The present Specification, on page 7, lines 20-22, states:

One or more model elements may be associated with a particular tag element, with each model element representing one possible alternative to the information included in the tag. For example, if a tag includes four valid semantic components, the tag element representing that tag will include four model elements associated therewith, each model element being a child of the tag element and corresponding to a different semantic component.

The Examiner contends that the model elements defined by the present specification “may represent one possible alternative to the information included in the tag” (final Office Action; page 7, last paragraph; emphasis in original), suggesting that the model elements need not represent one possible alternative to the information included in the tag, when this is, in fact, not the case. In any one of the data elements (e.g., PONumber), to which the Examiner analogizes with the model elements of the claimed invention, while the value of the data captured by the element may change, Chen does not disclose that the semantic component of the data changes, and thus such data elements are distinguishable from the model elements recited in amended claims 2, 9 and 16.

Likewise, claims 3, 10 and 17 further define the process of forming the document model as including the step of associating “a group element with a tag element corresponding to a tag in the document when the tag associated therewith includes a plurality of sub-tags, the group element being a child of the model element corresponding to the sub-tree” (emphasis added). Since Chen fails to disclose any counterpart to the model element of the claimed invention, Chen also fails to disclose this additional association step set forth in the subject claims. The Examiner, in response to Applicant’s arguments, contends that:

Wherein the applicant argues that the Examiner uses the terms “tag element”, “model element” and/or “group element” interchangeably despite their distinctness as defined in the specification, the Examiner notes each of the described elements are broadly defined in the specification (Page 7, lines 6-25) and a tag element could indeed be combined with a group element (Page 7, lines 11-13) and wherein a model element was only associated with a tag element and could thus also be combined with a tag elements [sic] as long as it provided the necessary functionality. (emphasis in original)

Applicant respectfully disagrees with the Examiner’s contentions. Specifically, while the tag element, model element and group element may be broadly defined in the present specification, it is not proper for the Examiner to impute a definition to each of these elements which is contrary to the meaning explicitly set forth in the specification. For example, the specification clearly states that “each model element being a child of the tag element and corresponding to a different semantic component” (Specification; page 7, lines 24-25). The present specification further states that “in the simple document model, each tag element has a single model element beneath it and associated therewith . . . The complex document model is preferably generated by allowing more than one model element under a given tag element” (Specification; page 9, lines 23-24, 29-30; emphasis

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added). Thus, the model elements and tag elements are clearly separate and distinct from one another, the model elements being beneath the corresponding tag elements.

For at least the reasons given above, claims 2-7, 9-14 and 16-20 are believed to be patentable over the prior art of record, not merely by virtue of their dependency from their respective base claims, but also in their own right. Accordingly, favorable reconsideration and allowance of these claims are respectfully requested.

In view of the foregoing, Applicant believes that pending claims 1-20 are in condition for allowance, and respectfully request withdrawal of the §102 rejection.

Respectfully submitted,



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